

# **The Diamond Light Source**

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Diamond Light Source

The Diamond Light Source, now under construction near Oxford, is the biggest scientific project in the UK for more than 30 years. It will be a third generation machine operating at 3.0GeV and 300 mA , with an emittance of 2nm-rad. It will compete strongly with other light sources in terms of the number and the brilliance of its undulator sources from 100ev to 25keV. Multipole wigglers will extend the energy range to beyond 100keV. Diamond has not been optimised for low energy radiation but bending magnets will provide intense radiation, suitable for many experiments below 50eV. It will be the main SR source to support the UK scientific community in a wide programme of research in the life, physical and environmental sciences. Phase I of the construction programme including the building the machine and 7 beamlines will be completed in January 2007. A further 15 beamlines will be come into operation by July 2011. The beamline construction will be supported by a detector development programme taking advantage of the expertise elsewhere on the Rutherford-Harwell site. The talk will describe the progress of the project and the planned scientific programme.